

Letter to the editor

Aerobic exercise capacity: an important correlate of psychosocial function in first episode psychosis

Aerobic exercise capacity is an established independent predictor of mortality from cardiovascular disease (1). Aerobic exercise capacity can be assessed in various ways including maximal oxygen uptake (VO_2 max) or by standardized exercise tests, such as walking-based protocols that measure total distance achieved in a given timeframe. Vancampfort et al. (2) first reported an association between exercise capacity and global functioning in hospitalized patients with schizophrenia. A strong relationship was found between the distance achieved on a standardized walk-test (a validated measure of aerobic exercise capacity) and the Global Assessment of Functioning score (GAF) (2). Although causality cannot be established through a cross-sectional study, the findings provide further justification for the inclusion of physical activity interventions in schizophrenia, and the importance of examining changes in maximal aerobic capacity, particularly given the potential impact that such strategies may have on physical health, mental health, and overall psychosocial functioning (3, 4).

We aimed to replicate the findings of Vancampfort et al. (2) in a sample of young people experiencing a first episode of psychosis (FEP) attending a community treatment service in Sydney, Australia. Nineteen young people (19.9 ± 2.4 years; 53% male) completed a staged submaximal exercise test on a cycle ergometer within 4 weeks of referral to the service. Submaximal exercise tests are a cheap, feasible, and valid alternative to maximal exercise testing for both the general and clinical populations. Submaximal exercise testing relies on heart rate response to a given workload, to estimate exercise capacity. The current study utilized the Young Men's Christian Association (YMCA) protocol involving two, 3-min stages of continuous cycling at a cadence of 50 RPM.

The mean estimated VO_2 max was 32.8 ± 7.1 ml/kg/min, with 61% ($n = 11$) of the sample below the 20th percentile for age and sex compared to normative data, indicative of a sedentary lifestyle and increased risk of mortality from all causes (5). The mean GAF score was 55.1 ± 7.8 , indicating a moderate severity of symptoms and/or difficulty in social, occupational, or school functioning. The Pearson correlation coefficient was 0.65, $P < 0.005$, comparable to the results of Vancampfort et al. (2), indicating a moderate association between functioning and VO_2 max in FEP patients.

These results provide further support for the inclusion of clinical exercise programs targeting aerobic exercise capacity as part of routine clinical care for young people experiencing FEP. Despite the limited sample size, these data demonstrate the poor aerobic exercise capacity in FEP patients and support the original findings of Vancampfort et al. (2), showing the association between aerobic exercise capacity and functioning in schizophrenia. Based on these findings, clinicians should

consider exercise testing to characterize aerobic fitness in young people with FEP. Targeted interventions to improve aerobic exercise capacity, when indicated, may reduce the risk of all-cause mortality in this vulnerable population, in line with the principles enunciated in the recently developed Healthy Active Lives (HeAL; www.iphys.org.au) international consensus statement.

Simon Rosenbaum^{1,2,3}, Andrew Watkins⁴, Scott Teasdale¹, Jackie Curtis^{1,2}, Katherine Samaras^{5,6}, Megan Kalucy¹, Davy Vancampfort^{7,8} and Philip B. Ward^{2,9}

¹Early Psychosis Programme, The Bondi Centre, South Eastern Sydney Local Health, ²School of Psychiatry, University of New South Wales, ³Musculoskeletal Division, The George Institute for Global Health, School of Public Health, University of Sydney, ⁴Faculty of Health, University of Technology Sydney, ⁵Department of Endocrinology, St Vincent's Hospital, ⁶Diabetes and Obesity Program, Garvan Institute of Medical Research, Sydney, NSW, Australia, ⁷Department of Rehabilitation Sciences, KU Leuven, ⁸Department of Neurosciences, UPC KU Leuven, KU Leuven, Kortenberg, Belgium and ⁹Schizophrenia Research Unit, South Western Sydney Local Health District, Sydney, Australia

E-mail: s.rosenbaum@unsw.edu.au

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